A Survey of Digital Literacy Skills among Library Professionals in Zambia

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ABSTRACT

The purpose of the study was to investigate digital literacy skills among library professionals in Zambia and to examine the extent to which digital skills are being used in libraries to enhance service delivery. A survey research design was used. This study was therefore quantitative in nature in which purposive sampling was employed to select a sample of 81 respondents out of a population of 346 librarians. An online questionnaire was developed using Survey Monkey for data collection and the collected data were analysed with the help of a Statistical Package for Social Sciences (SPSS) version 20. The study found that 24 (40.0%) considered their level of digital skills as basic, 19 (31.7%) perceived their level as intermediate while 17 (28.3%) considered their level as advanced. Therefore, digital literacy level among librarians is still low. Consequently it was recommended that concerted efforts should be devoted to incorporate digital literacy programmes in the institutions' curricular, as well as more training programmes for librarians. The paper provides insight into the state of digital literacy levels of library professionals in Zambia. The results of this study would inform policy direction with regard to the development of new or expanded digital literacy skills programs and digital competencies essential for developing and managing digital resources and protecting digital contents.

Keywords*:* Digital literacy; digital literacy skills; library professionals; librarians; Zambia

1. INTRODUCTION

Information and Communication Technology (ICT) has become central to personal and professional life. There are essential transformations in the library and information profession caused by the prevalent implementation of digital technology. Individuals, employers, professional associations and library schools all have a part to play in continuing staff development. The digital literacies or digital capabilities of staff across sectors are increasingly important in terms of service delivery and quality evaluation.

Berger and Frey (2016) contend that today the bulk of workers use the Internet as part of their jobs and digital literacy is predicted to become decisively important for the vast majority of workers in the future.

Digital devices such as mobile phones, tablets, and portable computers have become an essential part of our daily lives. Nonetheless, a lack of experience with digital platforms can drastically lead to social segregation (Bynner at al, 2010). This new reality requires library professionals to have not only skills related to the use of technological tools, but also information regarding the norms and practices of appropriate usage.

There are several definitions of digital skills and there is a wide variety of related concepts, such as digital competencies, capabilities and digital literacies. The American Library Association Digital Literacy Task Force (2013) defines digital literacy as the ability to use information and communication technologies to find, evaluate, create, and communicate information, requiring both cognitive and technical skills. Similarly, Jisc (2015) defines digital literacy as the capabilities which fit someone for living, learning and working in a digital society. Jisc further emphasizes that digital literacy changes across time and contexts, and is essentially a set of academic and professional situated practices supported by diverse and changing technologies which allow someone to live, learn, and work in digital society (Jisc, 2015).

1.1   The imperative of digital literacy among library professionals

Rapid technological changes are altering the traditional ways of performing different activities in libraries. Digital technologies such as e-book readers, social media, mobile technologies, etc. have brought about a paradigm shift in the way information is distributed and consumed (Eshet-Alkalai & Soffer, 2012). Therefore, these changes need to be emulated by all librarians in order to fit in the digital environment. Increasingly, citizens are digitally enabled and empowered; raising expectations of capability and innovation, relating to their information needs aspirations.

The proliferation of digital technology platforms has widened the walls of the libraries. Therefore all librarians need to be equipped with new skills of technologies such as resource sharing, social networking, surfing the net, instant messaging, blogging and host of other digital oriented activities (Emiri, 2015). Cordell (2013) argued that all librarians need to be equipped with skills related to how to navigate the library website, how to get to a search page or find the advanced search page, how to find the help files, how to save or export citations and full texts, how to set up an account in a social media site. Being equipped with all these skills will help librarians on their job to assist their users in information searching and retrieval. These related skills need to be capacitated to researchers so as to enable them to produce desired output of their research.

Librarians need to be aware of digital literacy in this current era of science and technology. Library users of this digital era are more interested in utilizing digital tools during their quest for information (Khan & Waheed, 2015). As a result, it is essential for libraries to provide digital literacy trainings to their users and educate them on the effective use of digital information sources offered by libraries.

Therefore, as more and more information is moving online, it is critical that library professionals are empowered with digital skills to enable them navigate the digital environment effectively.

1.2   Statement of the problem

As digital platforms saturate libraries, there is need for librarians to embrace these technologies in order to leverage them for service delivery. This therefore calls for the acquisition of digital skills on the part of library professionals. Although librarians in Zambia appeared to have adopted various digital technologies in their everyday activities, little was known about application of these tools for information service delivery. To date no documentation of digital literacy levels among librarians in Zambia has been reported. Therefore, due to this gap in knowledge, this study sought to investigate digital literacy levels among librarians in Zambia and explore the extent to which digital skills are being used in libraries in order to enhance service delivery.

1.3   Objectives of the study

The main objective of this study was to investigate digital literacy skills among library professionals in Zambia and to explore the extent to which these skills are being used in libraries to enhance service delivery. Specific objectives were to:

i.   Determine digital literacy skills awareness among librarians in Zambia;
ii.   Establish the types of digital skills possessed by librarians;
iii.   Establish if librarians in Zambia possess digital skills;
iv.   Determine challenges librarians face in acquiring digital skills.

2.   LITERATURE REVIEW

In a digital library environment, knowledge of the use of digital technology and resources to access, evaluate and retrieve information is not negotiable. Librarians must have requisite digital literacy skills to enable them achieve their purpose.

Various studies on diverse aspects of digital literacy have been conducted over several years. A number of studies have examined digital literacy skills of different social groups such as academics, researchers and students. However, this literature review focuses primarily on the studies related to library professionals. Some of such studies that deserve mention are:

Okeji, Tralagba and Obi (2019) investigated the digital literacy skills possessed by librarians working in university libraries in Nigeria. The study revealed the digital literacy skills that the librarians rated as very high and high, and those that they rated as moderate and low. The study also revealed the knowledge and competencies that they rated to be highly competent and competent, as well as also those that they rated to be neutral and not good. The librarians rated their knowledge of network and system security; ability to apply security software firewalls, filtering routers and ability to protect access to digital content by providing password or IP base access as neutral and not good. Overall, the study revealed that almost half of the librarians rated their level of digital literacy skills possessed to be moderate. Only few librarians rated their digital literacy skills to be excellent.

Emiri (2017) conducted a study on Digital literacy skills among librarians in university libraries in the 21st century in Edo and Delta states, Nigeria. The findings show that the proficiency level of librarians in digital literacy was generally low. The study further shows that some librarians acquired digital literacy skills through colleague's assistance and trial and error method. The study recommends training for librarians so as to help improve their knowledge in application of digital skills.

Martzoukou & Elliott (2016) conducted a study that examined the extent to which public librarians are successfully prepared to engage the community in digital literacy and inclusion. The study was carried out in twenty universities and colleges in the United States of America (USA). Findings show that the majority of public librarians felt that information technology skills and transferable skills were perceived to be equally important. Nevertheless most of the public librarians recognized a few gaps between what they learned and how it translated into their working setting. They also expressed the need for additional on-going training to promote digital literacy and to become skilful in understanding the needs of the public.

Ugwuanyi (2011) conducted a study on the influence of ICT literacy skills on its application for library use among academic librarians in south east Nigeria. This found that digital literacy skills are very necessary as the new literacy is required for effectively using ICT to accomplish functions in an information age.

Batool (2010) in his study on the status of technological competencies of librarians at Punjab University, India revealed that all librarians there had word processing skills but not very skilful in computer hardware expertise, that they were able to use basic Internet functions but not complex functions. The researchers observed that lack of depth in the curriculum, lack of refresher courses, and lack of training workshops were major hindrances in learning of technology.

Safahieh and Asemi (2010) in their research study titled at the University of Isfahan, Iran showed that majority of the respondents do not yet possess a good level of computer skills and even their long duration experience of computer use has not necessarily improved their level of computer literacy skills. It was suggested that in-house and continuous training programs is needed for librarians to be adequately equipped with the computer literacy skills to take advantage of all computerized library facilities and enhance their work productivity.

To determine the challenges faced by librarians in the acquisition of digital skills Sife, Busagala, and Chilimo (2016) conducted a study on the role of universities in creating ICT awareness, literacy and expertise: Experiences from Tanzanian public universities. They identified the problems of over-dependency on donor support, low bandwidth, inadequate ICT facilities, under utilization of the few available ICT facilities, inadequate ICT training and failure to retain ICT manpower as threats to acquisition of digital skills.

3. METHODOLOGY

The study adopted a survey research design in which questionnaires were used for data collection. This study was therefore quantitative in nature. The total

population involved all librarians in Zambia who are members of the Library and Information Association of Zambia (LIAZ) and with a minimum qualification of first degree. Owing to the nature of the population, the study adopted purposive sampling technique to select a sample of 81 respondents from a total population of roughly 346 librarians. The selected respondents had their email addresses registered with LIAZ Secretariat as at 1st January, 2019. The questionnaire consisted of questions pertaining to respondents' demographics, types of digital literacy skills, methods of acquiring digital skills, proficiency in using digital tools, and constraints to the acquisition and use of digital literacy skills. Data collection took place between July and August 2019 while analysis of data was done in November 2019. Analysis of the questionnaire results took place via statistical Package for Social Sciences (SPSS) version 20 to generate meaningful statistical inferences. The data was then presented in form of charts, and tables, with frequencies and rational representations in form of percentages. Qualitative data from open ended questions was categorised and classified using typical thematic analysis procedures.

The distribution in figure1 shows that the researcher gained more responses from public librarians 34 (56.6%) followed by academic librarians 18 (30.0%), special and research librarians 5 (8.3%) and school librarians 3 (5.0%).
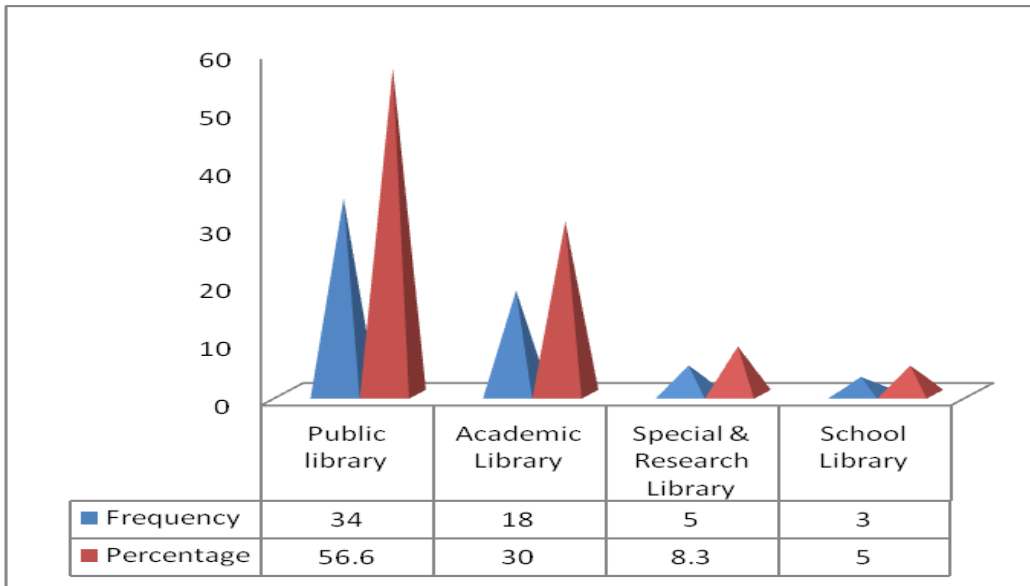

	Public library	Academic Library	Special & Research Library	School Library
Frequency	34	18	5	3
Percentage	56.6	30	8.3	5

Figure 1: Distribution of respondents according to type library

4. SURVEY RESULTS AND DISCUSSION

For the purpose of collecting data from respondents, 81 online questionnaires were distributed via email to the survey participants. Out of the 81 questionnaires sent 60 were returned representing a response rate of 74%.

4.1 Demographic characteristics of respondents

More than half 35 (58.3%) of the respondents were aged below 30 years, 19 (31.7%) were between 31 and 40 years and 6 (10%) were over 41years. Therefore, majority of the respondents were in the young population bracket.

In terms of gender, 32 (53.3%) were female while 28 (46.3%) were male. This gender distribution probably reveals a female dominance in the library profession as observed by Davis (2009).

With regard to academic qualifications, majority 48 (80%) of the respondents had a Bachelor's degree in Library and information Science (BALIS) while 12 (20%) were holders of a Masters degree. With regard to length of service, the analysis shows that out of 60 respondents, a considerable high number of respondents, 24 (40%) had worked between 11 and 15 years, 18 (30%) had worked between 16 and 20 years. Therefore majority of the respondents had worked long enough to understand and appreciate the role of digital media and technologies in the work place.

Table 1: Demographic characteristics of respondents

SN	Variable	Value	Frequency	Percentage (%)
1	Gender	Male	28	46.3
		Female	32	53.7
2	Age	<30	35	58.3%
		31-40	19	31.7%
		41>	6	10%
3	Academic qualification	BALIS	48	80%
		Masters degree	12	20%
4	Length of service	<10 yrs	Nil	
		11-15 yrs	24	40%
		16-20 yrs	18	30%
		21> yrs	Nil	

4.2 Awareness of digital literacy skills

With regard to the awareness of digital literacy skills, the study found that an overwhelming majority 57 (95%) of the respondents were aware of digital literacy skills while 3 (5.0%) were not. This is probably from formal education considering that all the respondents had a minimum qualification of a Bachelor's degree in LIS.

4.3 Digital literacy skills possessed by librarians

Figure 2 shows the types of digital literacy skills possessed by librarians. Majority 32 (53.3%) of the respondents had word processing skills, 9 (15.0%) had PowerPoint skills, 6 (10.0%) had bibliographic instruction software skills and 5 (8.3%) possessed knowledge of social media tools. The rest of the skill set were integrated search tools, web design and development, integrated library systems (ILS) and virtual reference technologies all at 2 (3.3%) each.
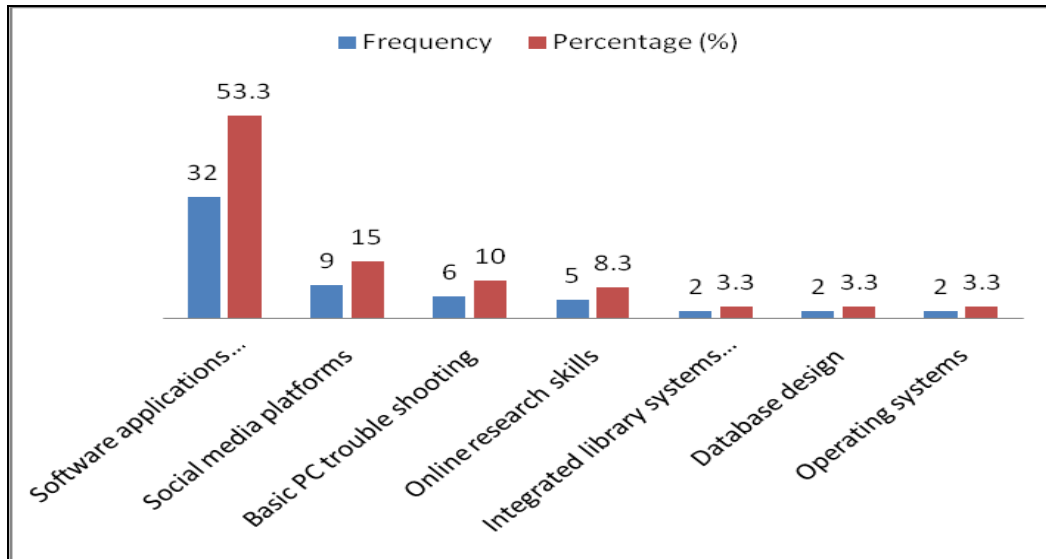
Figure 2: Digital literacy skills possessed by librarians

In the present digital age, it is necessary that the library professionals should be digital literate in order to cope with the latest technological changes and its application in library operation. A question was posed to respondents in order to determine the level of digital literacy skills they possessed.

Findings revealed that librarians possessed basic digital appreciation skills to a very high extent which include turning word processing, PowerPoint Presentation, bibliographic instruction software, Social media tools for service delivery, etc. The findings agree with Batool (2010) who opines that one essential requirement to operate in the knowledge society of the 21st century is digital skills which begin from turning on a computer to processes such as creating, storing, retrieving and accessing information online. This study revealed that librarians lack adequate requisite digital literacy skills in some areas which include using more advanced searching techniques software, integrated search tools, Web design, etc.

Digital skills are not only an added advantage for those entering the employment market, but survival skills that must be possessed by library professionals. It should be noted that as digital technologies proliferate, there is an urgent need for librarians to be agile, adaptable, and willing to continue to learn new technological skills if they are to be relevant in the digital environment.

4.4 Digital skills levels of librarians

Knowledge, skills and confidence with digital technology are now an asset for those entering the competitive employment market. Respondents were asked to assess their level of digital literacy skills. Data analyzed revealed that overall a majority 24 (40.0%) considered their level of digital skills as basic, 19 (31.7%) perceived their level of digital skills as intermediate while 17 (28.3%) considered their level of digital skills as advanced.
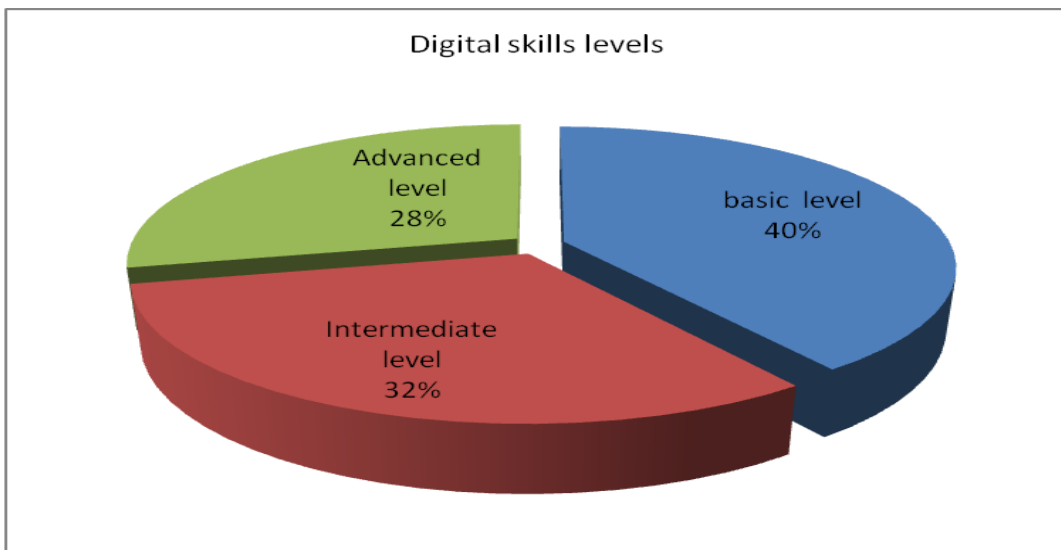

Figure 3: Self-assessment of level of digital literacy skills

This is surprising considering the high academic qualifications of the respondents. This might be attributed to an inadequate Library and Information Science (LIS) curriculum on meeting the librarians' real needs of digital literacy skills and the lack of adequate digital technological tools in the work place.

This result agrees with Batool (2010) who found that all librarians at Punjab University had basic knowledge on Internet and computer hardware and software.

Digital skills exist on a spectrum, from basic to more advanced, and encompass a combination of behaviours, expertise, know-how, work habits, character traits, dispositions and critical understandings.

Okiy (2005) indicates that in the information age, library professionals are expected to be more knowledgeable, forward looking, creative, productive, more focused and more competitive. Therefore it is necessary for them to provide leadership in digital applications, Internet capabilities etc

4.5 Means of acquiring digital literacy skills

There are various methods of acquiring digital skills by the library professionals. The librarians were asked to indicate which means and methods are being used to acquire by library professionals to update their digital skills and knowledge. Figure 4 shows that survey respondents acquired digital literacy skills through colleague's support 24 (40%), short training courses 23(31%), formal education 21 (35%), trial and error 9 (15%), self-study 5 (8%), seminars and workshop 1(2%).
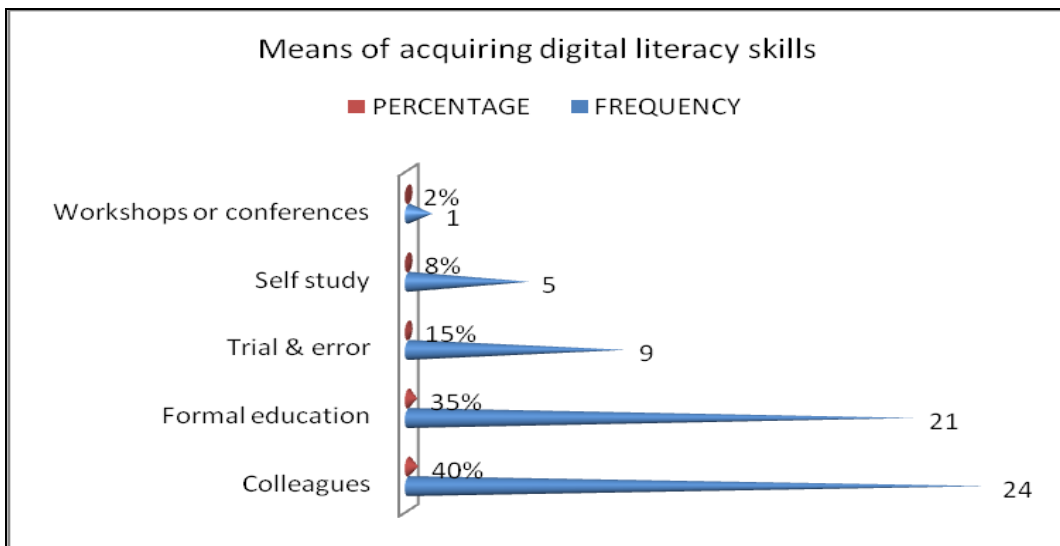

Figure 4: Digital skills acquisition methods

It is therefore inferred that librarians obtain digital skill mostly through colleague's support, formal education and trial and error. There is need therefore to establish formal ways through which librarians can be encourage to acquire

digital skills to enhance service delivery. These findings corroborate with those observed by Son (2014), who posited that most practitioners are self-taught in using computers.

4.6   Utilisation of digital skills in libraries

To know whether librarians apply digital skills in their work place, respondents were asked to choose one area where their skills were directly applicable in the delivery of library services. Figure 5 below shows the following: Library Automation 32 (53.3%), Institutional repository 10 (16.7%), Digital Library 6 (10.0%), Library Networking 5 (8.3%), Library Management 4 (6.7%) and Social media 3 (5.0%).
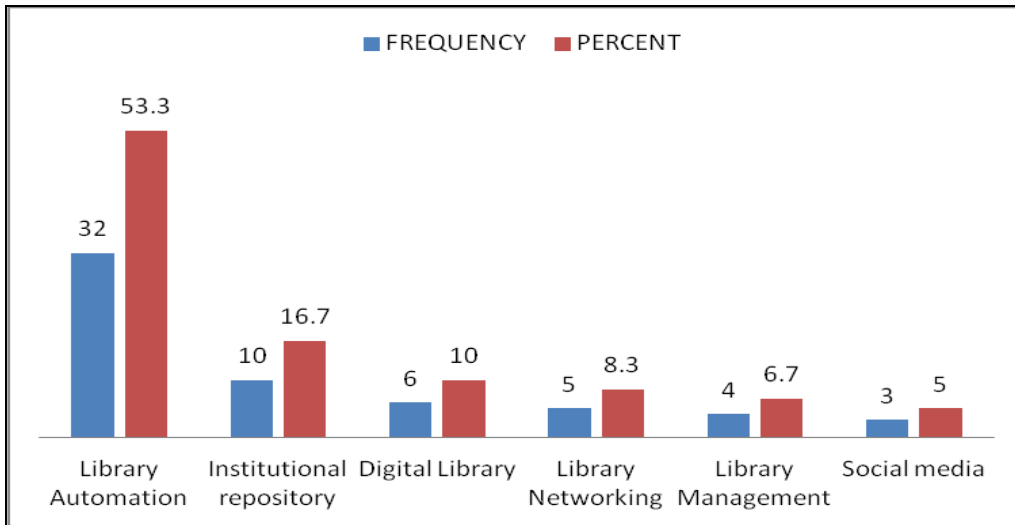

Figure 5: Utilisation of digital skills in library operations

Guarantying sustainable library development requires that technology is applied to all library operations. The librarians' choice of technological tools includes the series of technologies that can be applied in the library operations and services for collection, processing, storage, retrieval and dissemination of information. A study by Shabana and Batcha (2013) posits that ICT is essentially crucial in enhancing library processes and operations. Marsh (2018) argues that a lack of fluency in employees' use of digital tools is detrimental to digital workplace

progress. There is need therefore to equip librarians with digital skills so that they can in turn empower library users with the much needed digital skills.

4.7   Proficiency in the use of digital tools

When asked to self-assess their proficiency in the use of digital technologies, results show that 9 (15.0%) were very confident, 25 (41.7%) were quite confident while 26 (43.3%) were not confident. From these findings, it is clear that the empowerment of librarians with digital skills imperative. This result is supported by Emiri (2017) who found that the proficiency level of librarians in digital literacy was generally low. Therefore, a lack of digital literacy increasingly incriminates one's full potential of being an empowered employee. Similarly, Batool and Ameen (2010) found that librarians were not very skilful in computer hardware expertise and advanced services. They observed that lack of coverage in the curriculum, lack of refresher courses, and lack of training workshops were major problems in learning of technology.

Hence, knowledge, skills and confidence with digital technology are not only an added advantage for those entering the employment market, but survival skills that must be possessed by librarians. It should be noted that as digital technologies proliferate, there is an urgent need for librarians to be adaptable and willing to continue to learn new skills if they are to be relevant in the digital world of work.

4.8   Obstacles in acquiring digital skills

In order to understand the challenges faced by library professionals in acquiring digital skills, respondents were asked to indicate the obstacles they faced in acquiring digital skills. The findings show that the main constraint in acquiring digital skills is tight working schedule as 15 (57.69%) respondents out of 26 have indicated. This is followed by inadequate training 11 (42.30%), lack of funds 9 (34.61%) and lack of awareness 7 (26.92%).
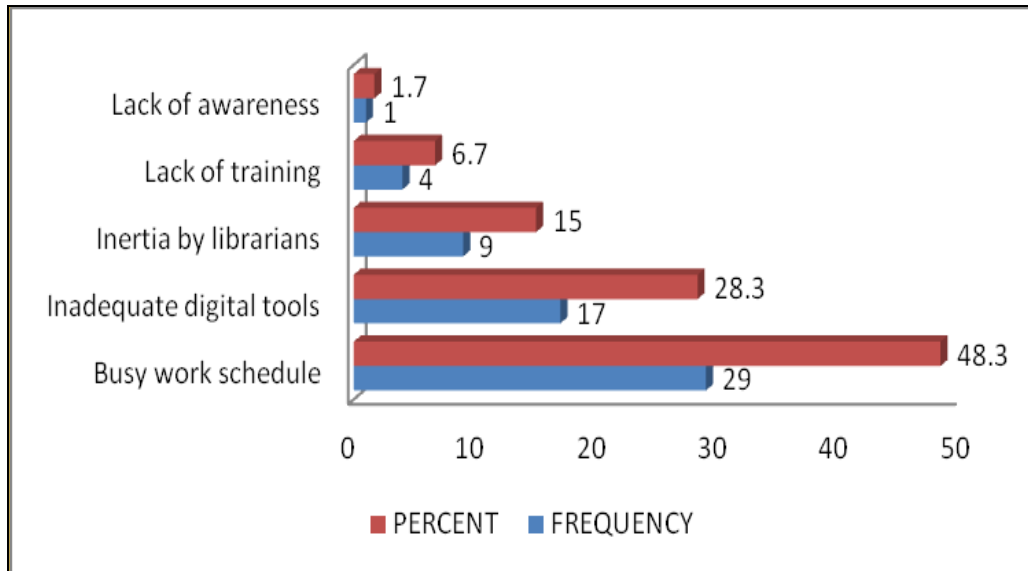
Figure 6: Obstacles in acquiring digital skills

It can be summed up that library professionals could not acquire the sufficient digital skills due to their day to day busy working schedule. Library professionals lack the proper ICT training at work place. Hence it is recommended that the library professionals should be encouraged to attend seminars, workshops, conferences and training programmes on digital based resources, services and tools. These findings concurs with the International Telecommunication Union (ITU) (2018) which observed that lack of infrastructure, low incomes and affordability and limited user capabilities are some of the barriers impeding digital skills acquisition among library professionals. It should be observed that acquisition of digital skills is categorically a step in the right course towards a successful utilization of digital library resources and services.

4.9   Strategies to enhance usage of digital technology in libraries

Librarians were asked to specify suggestions for acquisition of digital skills. Key findings were as follows: majority of Library professionals (60.0%) gave utmost priority to in-house training, workshops and webinars in digital literacy. The second priority was that libraries needed to be equipped with modern digital technology infrastructure (33.2%) while the third priority was that tertiary institutions needed to make digital literacy courses compulsory (3.2%). The other

3.2% of the respondents stated that library professionals needed to be regularly reading relevant professional literature. Therefore, to effectively mitigate the barriers to acquisition of ICT literacy skills, there must be creative strategies that could be adopted based on the identified problems.

However, when probed further concerning their training needs, 24 (40.1%) needed reskilling in all areas of ICT skills, 17 (28.3%) needed training in PC troubleshooting, 9 (15.0%) in database management, 5 (8.3%) in web design and the other 5 (8.3%) in digitization and imaging technology while (1.7%) needed training in software applications. This finding relates to the findings of Batool & Ameen (2010) who established the relevance of digital skills in providing effective and efficient library and information services. Digital skills instruction can take many different forms and deciding on what kind of instruction to make available is a local decision. With the changing demands of continuous technological development, however, individuals now need to take time to update their skills throughout their lives.

5. CONCLUSION AND RECOMMENDATIONS

Overall, the results of the present study indicate that librarians in Zambia are confident using digital technology. Librarians recognize that digital technology can support and augment library service delivery and they are committed to improving their digital literacies. This study has established that many librarians in Zambia are lacking advanced digital skills to enable them navigate in this complex digital environment. Though the survey respondents were familiar with some digital platforms, their level of proficiency was generally low. There is need for librarians to acquire digital literacy skills, if they are to make headway in the workplace and be able to function effectively in the ever changing digital epoch.

Based on the findings of the study, it is recommends that:

  i.   Funding should be increased to libraries.

  ii.   Libraries should procure more computers.

iii. Libraries should improve internet infrastructure.

iv. Digital skills proficiency should be given more consideration during recruitment of librarians.

v. The Library and Information Association of Zambia (LIAZ) should be running capacity building workshops in order to enhance digital skills acquisition among practicing librarians.

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